

**Notice of Allowability**

Application No.

10/731,120

Examiner

Sheela C. Chawan

Applicant(s)

LE DINH, CHON TAM

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/10/03.
2. ☒ The allowed claim(s) is/are 1- 40.
3. ☒ The drawings filed on 10 December 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date March 5, 2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**Examiner's Amendment**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the Specification:

Page 1, insert the following paragraph.

-- This application is a continuation of PCT/CA02/00887, filed on 06/12/2002 which claims benefit of 60/ 297,247 filed 06/12/2001 -- .

## **DETAILED ACTION**

### ***Drawings***

1. The Examiner has approved drawings filed on 12/10/03.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on March 5, 2004, the information disclosure statement is being considered by the examiner.

### ***Reason For Allowance***

3. The following is an examiner's statement of reasons for allowance:

The present invention is directed to an apparatus for reducing noise in a block-based decoded image signal including a luminance component, comprising, among other things, claim 1 recites an apparatus comprising: an image region classifier responsive to said luminance component for analyzing each luminance pixel value of the luminance component according to a corresponding luminance pixel spatial context in a same frame of said image signal to classify the luminance pixel to a selected one of a plurality of predetermined image region classes associated with distinct image region spatial characteristics and to generate a corresponding selected region class indicative signal; a shape-adaptive luminance noise power estimator responsive to said luminance component and said selected region class indicative signal for estimating statistical characteristics of said luminance pixel by using Local window segmentation data associated with the luminance pixel, to generate a corresponding luminance noise power statistical characteristics indicative signal;

and a shape-adaptive luminance noise reducer for filtering said luminance component according to said luminance noise power statistical characteristics indicative signal. The closest prior art, Apostolopoulos (US.6,577,679 B1) discloses method and apparatus for transcoding coded picture signals from object based coding to block-based coding. Kamiya (US.5,400,082) discloses device for reducing noise in a composite video signal. Inoue (US.5,237,410) discloses video signal encoding apparatus utilizing control of quantization step size for improved picture quality. Ward et al., (US.5,329,311) discloses system for determining noise content of a video signal in the disclosure. Each of the above references either singularly or in combination, fail to anticipate or render the above limitation obvious.

Claim 24 is representative of claim 1.

Claims 1- 40 are allowed.

4. Any comments considered necessary by applicant must be submitted on later than the payment of the issue fee and to avoid processing delays should preferably accompany the issue fee. Such submissions should be clearly labeled, comments on statement of reasons for allowance.

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**Contact Information**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is. 571-272-7446 . The examiner can normally be reached on Monday - Friday 7.30 - 4.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453 . The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Sheela Chawan*

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Group Art Unit 2625  
March 26, 2005

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